

ACC NR. A66032947

the $[\text{TiO}_6]$ octahedra was found to be independent of the method of synthesis. Their catalytic activity was affected by the gaseous medium, as shown, for example, by the comparative data on specific surface, preexponential factor, and activation energy for a maximum decomposition of hydrogen peroxide on a Li_2TiO_3 catalyst prepared in the air or in vacuum.

In the group of A_2BO_3 and ABO_3 compounds, where B is Zr, Nb, or Ta, i.e., alkali metazirconates, metaniobates, and metatantalates, only NaTaO_3 behaved like the alkali metatitanates and manganites versus the gaseous atmosphere in the synthesis. The gaseous atmosphere changes the crystal structure, i.e., symmetry type and lattice constants of NaTaO_3 , but does not affect its picnometric density or intensity of deformation vibrational bands in their IR transmission spectra. Other compounds of this group -- Li_2ZrO_3 , NaNbO_3 , KNbO_3 , CsNbO_3 , and CsTaO_3 -- change their crystal structure, i.e., symmetry type and/or lattice constant, in different gaseous media simultaneously with certain physicochemical properties, e.g., picnometric density, dielectric constant, intensity of deformation vibrational bands in the IR absorption spectra, and catalytic activity versus H_2O_2 decomposition.

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The crystal structure of LiNbO_3 , LiTaO_3 , and KTaO_3 , was not affected by the difference in gaseous atmosphere in the synthesis, but picnometric density, index of refraction, and intensity of deformation vibrational bands of the IR spectra were substantially changed.

These diverse and strong effects of the gaseous medium on the structure and properties of A_2BO_3 and ABO_3 compounds were explained as the result of deformability of their structure, specifically of the tendency toward distortion of the $[\text{TiO}_6]$, $[\text{NbO}_6]$, and $[\text{TaO}_6]$ octahedra. This deformability was correlated with a significant ionic polarizability of the alkali metatitanates, metaniobates, and metatantalates. This correlation which was experimentally established for the above-indicated compounds (presumably) may be extended to other compounds with significant ionic polarizability and may form the base for predicting the possibility of a beneficial effect of a given gaseous medium on the completeness of synthesis of a given compound. In addition, a significant ionic polarizability of a given compound may be an indication of a potential ferroelectric or antiferroelectric property.

An additional indication of the possible ferroelectric or antiferroelectric property of alkali metatitanates was seen in the ob-

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ACC NR: A16032947

served analogy in the structure of their IR absorption bands which are linked to the stretching vibrations of the $[\text{TiO}_6]$ octahedra and in the structure of the corresponding bands of the $[\text{NbO}_6]$ and $[\text{TaO}_6]$ octahedra in the IR absorption spectra of the alkali metaniobates and metatantalates. The observed spectral structure is characteristic of ferroelectric materials. The authors concluded that confirmation of the effect of a gaseous medium on solid-phase synthesis of a given compound is a prerequisite for studying the ferroelectric property in this compound. Orig. art. has: 1 figure and 8 tables.
[FSB: v. 3, no. 2]

SUB CODE: 11,07,20 / SUBM DATE: 14Jul65 / ORIG REF: 022 / OTH REF: 016

Card 5/5

SHAMMUR, I.I.

GOL'DREYER, I.G.; YAKOBSON, A.Kh., redaktor; BERG, A.I., redaktor; DZHI-
GIT, I.S., redaktor; YELIN, O.G., redaktor; KULIKOVSKIY, A.A., re-
daktor; MOZHZHEVELOV, B.N., redaktor; SMIRNOV, A.D., redaktor; TA-
RASOV, P.I., redaktor; TRAMM, B.F., redaktor; CHECHIK, P.O., re-
daktor; SHAMMUR, V.I., redaktor; VORONIN, K.P., tekhnicheskij re-
daktor.

[Feedback electronic cascades] Lampovyi kaskad s obratnoi svyaz'iu.
Moskva, Gos. energeticheskoe izd-vo, 1954. 86 p. (Massovaya radio-
biblioteka, no. 201) (MLRA 7:11)
(Amplifiers, Electron tube)

CHUDAKOV, Ye.A., akademik, glavnyy redaktor; AKOPOV, S.A., redaktor; ARTOBO-
LEVSKIY, I.I., redaktor; ACHERKAN, N.S., redaktor; BEZPROZVANNYY, I.M.,
redaktor; GUDTSOV, N.T., redaktor; DIKUSHIN, V.I., redaktor; YEFREMOV,
A.I., redaktor; ZAPOROZHETS, V.K., redaktor; ZIMIN, A.I., redaktor; KA-
ZAKOV, N.S., redaktor; KIRPICHEV, M.V., redaktor; KOVAN, V.M., redaktor;
KONYUSHAYA, Yu.P., redaktor; LIPGART, A.A., redaktor; MALYSHEV, V.A., re-
daktor; MARTENS, L.K., redaktor; MARIYENBAKH, L.M., redaktor; NIKOLAYEV,
G.A., redaktor; ODING, I.A., redaktor; PATON, Ye.U., redaktor; RAMZIN,
L.K., redaktor; RUBTSOV, N.N., redaktor; SAVERIN, M.A., redaktor; SEMEN-
CHENKO, I.I., redaktor; SERESEN, S.V., redaktor; SHAMNI, N.A., redaktor;
SHELEST, A.N., redaktor; SHUKHGAL'TER, L.Ya., zastititel' glavnogo re-
daktora, redaktor; YAKOVLEV, A.S., redaktor.

[Machine construction encyclopedic handbook] Mashinostroenie; entsiklope-
dicheskii spravochnik. Part 1. [Engineering calculations in machine
construction] Inzhenernye raschety v mashinostroyeni. Moskva, Gos. nauch-
no-tekhn. izd-vo mashinostroyit. lit-ry, Vol. 1. no.1. 1947. 548 p.
(Mechanical engineering) (MIRA 8:1)

SHAMLIN, I.A.

Questions of centralized and automatic control of measurements
of wire broadcasting channels. Vest. sviazi 20 no.8:7-9 Ag'60.
(MIRA 13:10)

1. Glavnyy inzhener Moskovskoy gorodskoy radiotranslyatsionnoy
seti.

(Wire broadcasting--Testing)

SHAMOLIN, A.S., inzhener

Planning a centralized power supply for lumber camps. Les.prom.
35 no.4:18-19 Ap '57. (MLRA 10:5)

1. Giprosplets. (Electricity in lumbering)

14

Intensification of paper-machine operations
Shenolgy, *Bamark. Prom.* 23, No. 6, 21-3-1918
qual. discussion of methods of increasing paper-machine
production, with particular reference to the drier section
Marshall Sutug

ASME-514 METALLURGICAL LITERATURE CLASSIFICATION

34

PAPIR-ES NYOMDATECHNIKA — PAPER AND PRINTING
Vol. 2 — 1950
No. 9, Sept.

U. S. Summary 064712
Lengthening the life of staves Trans
Taken from the Russian pp 10 11

ASAC 354 METALLURGICAL LITERATURE CLASSIFICATION

4

23

Increasing wire life. I. C. Shamolin. *Remark. From* 25, No. 1, 10-21(1950). The factors governing four-drum wire wear are discussed. Table, carrier, guide, draw, and breast rolls, as well as the bottom roll on the couch should be rubber- or resin-covered to reduce electrolytic corrosion. A brief description is given of a vinyl-asbestos roll covering, found to give good H₂O removal and a decreased slippage between roll and wire, and to retain its surface in long service. Covered rolls weigh less than uncovered rolls for a given roll strength, and are equally stable. Textolite suction-box covers, with the fibers perpendicular to the plane of the wire, are recommended. For a given furnish and machine speed, the width of each suction box and the vacuum applied have optimum values for max. H₂O removal; suction greater than the optimum value shortens wire life. Sand should be removed from the furnish in vortex traps, and wire wash sprays should be intermittent in operation and directed toward wire travel. The draw on the wire should be the min. required, and particular care should be taken in positioning the draw roll.

John Lake Keays

1. GOSTEV, P. I. and SHAMOLIN, I. S. and RUDSON, F. T.

2. USSR (600)

4. Paper-Making Machinery

7. Device for feeding pulp onto the wire. Dum.prom. 27 no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

1. D.M.C. 1, 1952

2. D.M.C. 1, 1952

3. D.M.C. 1, 1952

4. Factors in Improving the Quality of Agr. Prod., 27, No. 10, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHAMOLIN, I.S.

Manufacture of pulp and papermaking equipment. Bum.prom. 27 no.12:12-13
D '52. (MLRA 7:10)

1. Zamestitel' direktora NIIBumash po nauchnoy i tekhnicheskoy chasti.
(Papermaking machinery)

SHAMOLIN, I.S., inzhener.

Modern plant for sulphite wood pulp. Bum.prom. 28 no.7:23 J1 '53.
(MIRA 6:7)
(Wood-pulp industry)

SHAMOLIN, I.S., inzh.

Factors affecting the dewatering of paper sheet in the wire
section. Bum.prom. 35 no.9:6-9 S '60. (MIRA 13:9)
(Papermaking machinery)

SHAMONIN, I.M., starshiy zootekhnik

By virtue of necessity. Zhivotnovodstvo 21 no.2:62 F '59.
(MIRA 12:3)

1. Arzamasskaya mezhrayonnaya zhivotnovodcheskaya kontora.
(Voronezh Province--Simmenthal cattle)

SHAMONIN, M.G., agronom-entomolog

In friendly Afghanistan. Zashch. rast. ot vred. i bol. 4
no.5:52-53 S-0 '59. (MIRA 16:1)

(Afghanistan—Plants, Protection of)

SHAMONIN, M.G., agronom

In Afghanistan. Zashch. rast. ot vred. i bol. 5 no. 8:52-53
Ag '60. (MIRA 13:12)

(Afghanistan--Plants, Protection of)

SHAMONIN, M.G., agronom

Marocco and desert locusts in Afghanistan. Zashch. rast. ot vred.
i bol. 8 no.9:49-51 S '63. (MIRA 16:10)

SHAMONIN, Yu. Ya.

Jan 52

USSR/Physics - Crystals

"Paramagnetic Resonance Absorption and Dispersion of Susceptibility in Crystal Powders of Certain Salts at Frequency $9.62 \cdot 10^9$," B. M. Kozyrev, S. G. Salikhov, Yu. Ya. Shamonin, Phys-Tech Inst, Kazan Affiliate, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXII, No 1, pp56-61

Gives the results of measurements of paramagnetic absorption χ' and high-frequency susceptibility χ'' in dependence upon the strength H of a const magnetic field disposed perpendicularly to an alternating magnetic field of frequency $9.62 \cdot 10^9$. Conducted measurements with a number of paramagnetic salts of the transitional elements of period IV. Established that while some salts give one intense resonance line, others display a spectrum consisting of several partially intersecting lines of comparatively small intensity. Noted no measurable effect in some salts.

PA 204T102

Elektronnyy paramagnitnyy rezonans v yestestvennykh berillakh

AUTHORS: Zaripov, M.M. and Shamonin, Yu.Ya.

TITLE: Electronic Paramagnetic Resonance in Natural Beryls
(Elektronnyy paramagnitnyy rezonans v yestestvennykh berillakh)

PERIODICAL: Izvestiya Akademii Nauk, V. XX, # 11, 1224-1225, Nov 1956,
(USSR), Seriya fizicheskaya

ABSTRACT: A spectrum of paramagnetic resonance absorption in 5 natural monocrystals of beryl was discovered during an investigation of paramagnetic resonance at a frequency of 9,655 megacycles. A curve in the article shows the general view of the spectrum. The table shows resonance values of the constant magnetic field (in oersteds).

Since the monocrystals of pure beryl do not contain paramagnetic atoms, the appearance of a paramagnetic resonance absorption spectrum is caused by paramagnetic admixtures in the beryl lattice. This admixture may be Fe^{+++} ions, which can substitute in an isomorphic way Al^{+++} ions in the beryl lattice. The optical spectrum analysis has confirmed the presence of iron. The results of this research show that a qualitative analysis of

Card 1/2

USSR/Magnetism - Magnetic Radiospectroscopy, F-6

Abat Journal: Referat Zhur - Fizika, No 12, 1956, 34977

Author: Zaripov, M. M., Shamonin, Yu. Ya.

Institution: Kazan' University, USSR

Title: Paramagnetic Resonance in Synthetic Rubies

Original

Periodical: Zh. eksperim. i teor. fiziki, 1956, 30, No 2, 291-295

Abstract: Experiments were made at room temperature and at a frequency of 9,580 Mc. Investigation was made of monocrystals of artificial rubies, the general equation of which can be written in the form $(1-n) \text{Al}_2\text{O}_3 \cdot n\text{Cr}_2\text{O}_3$, with $n = 0.1 - 0.01\%$. The paramagnetic resonance is given by the Cr^{3+} ions. The observed spectra are well explained if one assumes that the electric field of the crystal has fundamentally a trigonal symmetry; this does not contradict the crystallographic data on rubies. The initial splitting of the ground level of Cr^{3+} is found to be 0.38 cm^{-1} and the g-factors entering into the usual spin Hamiltonian is found to be $g_{\parallel} \approx g_{\perp} = 0.98$.

Card 1

SHAMONIN, Yu.Ya.; YAN, S.A.

Solvation of Cu, Mn and Cr ions in alcohol-water solutions studied by the method of nuclear magnetic resonance. Dokl. AN Arm. SSR 38 no.5:289-293 '64. (MIRA 17:6)

1. Fiziko-tehnicheskii institut Kazanskogo filiala AN SSSR i Tsentral'naya nauchno-issledovatel'skaya fiziko-tehnicheskaya laboratoriya AN Armyanskoy SSR. Predstavleno chlenom-korrespondentom AN Armyanskoy SSR M.M.Kocharyanom.

SHAMONOV, P.; MATYAGIN, D., inzhener; BELOV, K., rabochiy

Let's renew contacts between workers of the United States and the
U.S.S.R. Sov. profsoiuzy 7 no.17:48-50 S '59. (MIRA 12:11)

1. Predsedatel' zavkoma zavoda "Krasnyy proletariy" (for Shamonov).
2. Zavod "Krasnyy proletariy" (for Matyuagin, Belov).
(Russia--Relations (General) with United States)
(United States--Relations (General) with Russia)
(Trade unions)

4'

s/125/60/000/05/02

18.72:0
AUTHORS:

Livshits, L. S., Grinberg, N. A., Panich, S. I., Shamonov, S. I.

TITLE:

The Nature of Chemical Non-Homogeneity of the Fusion Zone in Some Pearlite Steels

PERIODICAL:

Avtomaticheskaya svarka, 1960, No. 5, pp. 11-16

TEXT:

Local spectral analysis with "three standards" was employed in investigating the distribution of carbon and other elements in the fusion zone of welded joints. The article gives the most characteristic results of investigation of welds with 1.9% Cr, and with 1.7% V. A "PMT-3" apparatus (Fig. 2) was slightly changed for local analysis with the use of a manganese needle electrode, i. e. the diamond was replaced by this electrode. The other electrode was a lead cone. The cylindrical needle 1 mm in diameter was of pure magnesium produced by electrolysis with 10-12 volt a-c in electrolyte consisting of 90 cm³ of 10% Na₂HPO₄ solution and 10 cm³ H₂SO₄. Sharpening the needle to 0.01-0.015 mm took 20-25 sec. After every photograph with the "ISP-28" spectrograph, the needle was immersed for 2-3 sec into 10% HNO₃ solution to remove oxides, then was

Card 1/

SHAMONOV, V.

Automation of the ~~pumping~~ unit for delivering a solution of the
coagulant. Zhil.-kom. khoz. 12 no.10:30 0 '62. (MIRA 16:2)

1. Glavnyy energetik Upravleniya vodosnabzheniya i kanalizatsii
g. Gor'kogo.
(Sewage—Purification) (Pumping machinery)

DRAMONOV, V.M., tekhnika

Automation of storage battery charging operations. Energetika
10 no.3:31 Mr 1962.

15:2

(Storage batteries)

AMITON, I. N.; SHAMONOVA, N. I. (Kolomna)

Spectral study of the composition of industrial dust. Gig. truda
i prof. zab. no.4:51 '62. (MIRA 15:4)

1. Gorodskaya sanitarno-epidemiologicheskaya stantsiya.

(DUST) (SPECTRUM ANALYSIS)

LAKTIONOV, A.F.; SHAMONT'YEV, V.A.

Aeronautics in Arctic oceanographic research. Probl. Arkt. no.2:
19-31 '57. (MIRA 11:12)
(Arctic regions--Aeronautics in geography)
(Oceanographic research)

LAKTIONOV, A.F.; SHAMONT'YEV, V.A.

Use of airplanes in oceanographic research in the Arctic.

Biul.Okean.kom. no.2:65-74 '58. (MIRA 12:5)

(Arctic regions--Oceanographic research) (Aeronautics in geography)

SHAMONT'YEV, V.A.

Making hydrological holes in the ice by blasting. Probl.Arkt. no.3:
103-106 ' 58. (MIRA 12:1)

(Arctic Ocean--Blasting) (Oceanographic research)

SHAMONT'YEV, V.A.

Tables for instrumental corrections in the readings of
reversing deep-sea thermometers. Probl.Arkt.i antarkt.
no.1:109-116 '59. (MIRA 13:7)
(Deep-sea temperature) (Thermometers)

SHAMONT'YEV, V.A.

Oceanographic expedition of 1958 in the diesel-electric ship
"Lena" in the Greenland Sea. Probl.Arkt. m.6:124-127 '59.
(MIRA 13:6)

(Greenland Sea--Oceanographic research)

SHAMONT'YEV, V.A.

Two cruises of the oceanographic expedition of 1959 in the
Greenland Sea. Probl.Arkt.i Antarkt. no.2:123-125 '60.
(MIRA 13:6)

(Greenland Sea--Oceanographic research)

SHAMONT'YEV, V.A.; YANES, A.V.

Some features of the winter hydrological regime in the northern part
of the Greenland Sea. Probl.Arkt.i Antarkt. no.5:71-77 '60.

(MIRA 14:4)

(Greenland Sea---Hydrology)

SHAMONT'YEV, V.A.

Drifting station "North Pole-9." Probl. Arkt. i Antarkt. no.10:
95-96 '62. (MIRA 16:2)

(Drifting ice stations)

SHAMONT'YEV, V.A., mladshiy nauchnyy sotrudnik

Brief characterization of the ice conditions of Alasheyev Bight.
Inform. biul. Sov. antark. eksp. no.37:20-24 '62; (MIRA 16:4)

1. Arkticheskiy i anatarcticheskiy nauchno-issledovatel'skiy institut.
(Alasheyev Bight—Sea ice)

KONONOV, A.S., mladshiy nauchnyy sotrudnik; SHAMONT'YEV, V.A., mladshiy
nauchnyy sotrudnik

Brief characterization of the meteorological conditions in the
area of Molodezhnaya Station, based on 1962 data. Inform. biul.
Sov. antark. eksp. no.38:24-28 '63. (MIRA 16:7)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.
(Molodezhnaya Station region, Antarctica--Meteorology--Observations)

SHAMONT'YEV, V.A., mladshiy nauchnyy sotrudnik

Local movements and breaking shore ice in Alasheyev Bight. Inform.
biul.Sov.antark.eksp. no.42:23-25 '63. (MIRA 17:1)

1. Arkticheskiy i antarkkticheskiy nauchno-issledovatel'skiy institut.

SHAMONT'YEV, V.A., mladshiy nauchnyy sotrudnik

Tides in the Alasheyev Bight. Inform.biul. Sov.antark.eks^p no.43:31-
32 '63. (MIRA 17:1)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.

L 45286-66 ENT(1) GH
ACC NR: AT6023230

(N)

SOURCE CODE: UR/2732/66/044/000/0115/0123

AUTHOR: Shamont'yev, V. A.

16
B+

O. G: none

TITLE: Results of observations of tidal phenomena in the region of the Molodezhnaya Station

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955- . Sed'moy reys d/e "Ob'", 1961-1962 gg.; nauchnyye rezul'taty i materialy nablyudeniye (Seventh voyage of the diesel-powered "Ob'", 1961-1966; scientific results and observation data); trudy ekspeditsii, v. 44. Leningrad, Gidrometeoizdat, 1965, 115-123

TOPIC TAGS: oceanographic research, ocean tide, oceanographic expedition, Antarctic climate

ABSTRACT: During the seventh Soviet Antarctic expedition in January-February 1962 observations were made on the variations of the sea level near the southern shore of Alasheyev Bay (67°40' . 5 S, 45°47' . 3 E), near the seasonal Molodezhnaya Station. Since observations in the sea level in this region had not been carried out previously, the obtained data are the first information on the character of tides in the region of Alasheyev Bay. The observations revealed that the average height of high (low) tide of the tropical tide relative to the average sea

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L 45288-66

ACC NR: AT6023230

level was 39 cm (68 cm); the average value of the tropical tide was 107 cm. The maximal (minimal) possible level of the tropical tide relative to the average sea level was 57 cm (-95 cm), and the maximal value of the tropical tide was 152 cm. The character of the tides in Alasheyev Bay showed that the fluctuations of the level in this region are similar in character and magnitude to the tides observed at the Soviet Antarctic stations Mirnyy and Lazarev. A study of the tides in the region of the new Antarctic station Molodezhnaya is of practical importance in connection with the complexity of the submarine relief and shallowness of the coastal part of this region of the Antarctic. A detailed investigation of the tidal fluctuations in the Alasheyev Bay will permit a more thorough study of the tides and the seasonal and annual variations of their regime in this interesting and important region. Orig. art. has: 1 table and 4 figures.

SUB CODE: 08/ SUBM DATE: 13Dec65/

Card 2/2 *12/1*

ACC NR: AT6023232

(N)

SOURCE CODE: UR/2732/66/044/000/0189/0215

AUTHOR: Shamont'yev, V. A.

ORG: none

TITLE: Results of meteorological observations

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955- . Sed'moy reys d/e "Ob'", 1961-1962 gg.; nauchnyye rezul'taty i materialy nablyudeniy (Seventh voyage of the diesel-powered "Ob'", 1961-1966; scientific results and observation data); trudy ekspeditsii, v. 44. Leningrad, Gidrometeoizdat, 1965, 189-215

TOPIC TAGS: Antarctic climate, meteorologic observation, meteorologic research facility

ABSTRACT: These observations were carried out to study the meteorological conditions in the sailing region of the ship Ob' and to elucidate the basic characteristics of the climatic conditions of the little-studied region of the Antarctic where the location for setting up the new station Molodezhnaya was selected. The observations on board the Ob' began south of the English Channel to Alasheyev Bay. After the Ob' arrived at Alasheyev Bay the expedition began meteorological observations at the temporary camp of the seasonal detachments on the southern shore of the bay in the region of the Molodezhnaya station, from January 9 to February 22, 1962.

Card 1/2

ACC NR: AT6023232

Beginning with March 1, 1962 the weather observations were transferred directly to the Molodezhnaya station and were carried out there until March 31, 1962. Wind direction and velocity, air temperature, atmospheric pressure, cloud cover, horizontal visibility, and atmospheric phenomena were determined. The results of these ship-board and camp-site observations are given in extensive tables in appendices.

SUB CODE: 04/ SUBM DATE: 13Dec65

Card 2/2

L 56513-65 EEO-2/ENT(d)/FEO/FSS-2/EEC(k)-2/EMA(d)/T-2/EEC(c)-2/EDD-2 Pn-h/
 Pc-h/Pq-h/Pac-h/Pg-h/Pae-2/Pk-h/Pl-h WB UR/0124/65/000/006/A006/A007

ACCESSION NR: AR5016488

SOURCE: Ref. zh. Mekhanika, Abs. 6A44

AUTHOR: Shamordin, B. A.

TITLE: Kinematics of the parallel approaching of two points in the case of one of them moving along a parabola

CITED SOURCE: Uch. zap. Permsk. un-t, no. 115, 1964, 75-80

TOPIC TAGS: target tracking, kinematics, trajectory determination

TRANSLATION: The following kinematic problem of pursuit is solved: a) the target is moving along a parabola; b) the pursuit is conducted by means of a parallel approach at a constant velocity; c) the pursuer is moving in the plane of motion of the target. The equations for pursuing the target are derived and solved, the motion of a pursuer is determined, and an example is analyzed. V. I. Kirgetov

SUB CODE: DO

ENCL: 00

24
 Ford 1/1

KAPUSTA, I.Ya., inzh.; SHAMORDIN, V.I., inzh.; MIKLASHEVSKIY, N.I., inzh.;
LEMESHKO, V.V., inzh.

Roadability of the SSh-45 self-propelled chassis. Trakt. i sel'-
khoz mash. 33 no.6:32-35 Je '63. (MIRA 16:7)

1. Tul'skiy kombaynovyy zavod.
(Tractors--Dynamics)

SHAMOV, A.A., inzh.; ZAKARZHEVSKIY, V.P., inzh.

Mechanization of the preparation of metal supports. Gor. zhur. no. 5:
73-74 My '60. (MIRA 14:3)

1. Trest Nikopol'-Manganets.
(Min. timbering)

SHADY, A. N. and I. I. P. P.

Poverkhnostnaia zakalka podkranovykh katkov i begunov tokami vysokoi
chastoty. (Izvestn. Mash., 1969, no. 5, p. 61-62)

(Surface hardening of crane rollers and runners by high-frequency currents.)

FIG: TMI.VI

30: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1963.

21000 SHANOV, A. N. Ustroystva dlya elektronnykh pri-
bormicheskoy obrabotke avtomaticheskoy. "Prom-st", 1949, No. 7,
s. 17-21.

So: Leto is' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

MA. V, A. I. and I. I. K. 1950.

Proyektirovaniye primeneniya ustanovok dlia induktsionnogo na greva shchitov.
(Vestn. Mash., 1950, no. 1, p. 52)

(Industrial utilization of installations for induction heating of rods.)

DLC: TUL.VH

SO: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1953.

VOLOGDIN, V. I.
CHIRKOV, V. I.
BOGDANOV, V. K.

Induction Heating

Induction heating of forgings in the blacksmith shop of the Moscow Lightweight Automobile Plant. Avt. Trakt. prom. No. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 Uncl.

SHAMOV, A. N.

USSR/Engineering - Caterpillar Track

Card 1/1

Authors : Shamov, A. N., and Ryskin, S. E.

Title : High-frequency induction surface-hardening of caterpillar track link cleats

Periodical : Avt. Trakt. Prom. Ed. 1, 22-24, January 1954

Abstract : Described are two automatic machines, designed by the Scientific Investigational Institute, for high-frequency induction surface-hardening of caterpillar track link cleats. Both machines are similar in construction, except that one is used for caterpillar cleats having a diameter of 30 mm or more, and the other for cleats having a diameter of 30 mm or less. Also mentioned is the technology for the high-frequency induction surface-hardening, and a comparison is made with an electrolytic hardening process. Drawings.

Institution :

Submitted :

BOGDANOV, V.N.; RYSKIN, S.Ye.; SHAMOV, A.N.; VOLOGDIN, V.V., inzhener,
retsensent; DONSKOY, A.V., professor, redaktor; VASIL'YEVA, V.P.,
redaktor izdatel'stva; SOKOLOVA, L.V., tekhnicheskij redaktor

[Induction heating in forging] Induktsionnyi nagrev v kuznechnom
proizvodstve. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-ry, 1956. 198 p. (MLRA 9:8)
(Induction heating) (Forging)

PHASE I BOOK EXPLOITATION

1002

Author: Alexander Nikolayevich

High-frequency induction heating installations by
connecting current to high-frequency induction heating installations by
high-frequency generators) 2d ed., rev. and enl. Moscow, Mashgiz, 1957. 55 p.
(Bibliography: vysokochastotnikâ-termista, vyp. 10) 10,000 copies printed.

Ed. (inside book): Fogel', A. A., Candidate of Technical Science; Ed. (inside book):
Bemuner, A. V., Engineer; Reviewer: Donskoy, A. V., Doctor of Technical Sciences,
Professor; Ed. of Publishing House: Simonovskiy, N. Z.; Tech. Ed.,
Sycheva, O. V.; Editorial Board of Series: Fogel', A. A., Candidate of Tech-
nical Sciences (Chairman), Spitsyn, M. A., Candidate of Technical Sciences,
Glukhotskiy, Candidate of Technical Sciences, Glukhanov, N. P., Candidate of
Technical Sciences, and Bemuner, A. V., Engineer; Chief Ed. (Leningrad
Division, Mashgiz): Bolshakov, S. A., Engineer.

PREFACE. This booklet is addressed to industrial workers interested in high-
frequency heating techniques.

Card 1/3

1002

Supplying Current to High-Frequency (Cont.)

The booklet is part of a series entitled "Bibliotekha vysokochastotnika" (High-Frequency Heating Technicians Library) which publishes the latest developments in the field of high-frequency heating and the research and achievements of the Institut tokov vysokoy chastoty imeni professora V.N.Vologdina (Institute of High-frequency Currents imeni Professor V.N. Vologdin). The series also reports on Soviet and foreign achievements in the field. The purpose of the series is to encourage the introduction and adoption of high-frequency induction heating techniques, and to encourage the exchange of the latest experience in the field. The titles of all the booklets constituting the series are given at the end of each issue. The present work discusses in popular form problems in the power supply of high-frequency units by machine generators. Basic components of the power plant are discussed, as well as the auxiliary components required for controlling the thermal processes. Problems of a centralized power supply for high-frequency units, the adjustment of such units and the transmission of high-frequency energy are discussed. The booklet also discusses the applications of high-frequency heating in Soviet industry. No personalities are mentioned. There are no references.

Supplying Current to High-frequency (Cont.) 1002

TABLE OF CONTENTS:

Preface

1. Basic components of high-frequency units and their function	3
2. Auxiliary components for automatic control	5
3. Automatic control of the tempering process	19
4. Central power supply for high-frequency units	30
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6. Adjusting heating units	41
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AVAILABLE: Library of Congress

Card 3/3

JP/gmp
1-7-59

SOV/137-58 10 20452

Translation from: Referativnyy zhurnal, Metallurgiya 1958 Nr 10 p 15 (USSR)

AUTHOR: Shamov, A N.

TITLE: Industrial Uses of High-frequency Currents in Sweden (Promy shlennoye primeneniye tokov vysokoy chastoty v Shvetsii)

PERIODICAL: V sb.: Prom. primeneniye tokov vysokoy chastoty, Riga 1957, pp 383-389

ABSTRACT: A review of equipment manufactured in Sweden for high-frequency heating. Coreless induction furnaces (CIF) of four types - cylindrical, conical, two-frequency, and vacuum - are manufactured for operation on commercial frequency. In all these types of furnaces, insulation of the inductor coil is by a special ceramic coating. The magnetic conduit, in the form of a laminated-iron pack, is placed outside the inductor, circumferentially, and serves as a screen for the steel shell. Losses in the magnetic conduit do not exceed 1% of the furnace power. Losses in the capacitors do not exceed 0.3% of the rated reactive power. An auxiliary generator with 25-30% of the power of the main one is connected to the furnace to maintain the temperature during analyses, addition of alloying elements, etc., when the

Card 1/2

SOV/137-58-10-20452

Industrial Uses of High-frequency Currents in Sweden

main generator is connected to a new furnace. The ASEA firm manufactures CIF of 1/0-18 0 t capacity with generators of 550-4400 kwh, a frequency of 1000 to 600 cps and output rate 0.74-6.2 t/hr of steel and 0.86-7.3 t/hr of pig iron. This same firm manufactures two-frequency furnaces, in which a high-frequency current is transmitted through the inductor for heating, and a 2-, 4-, or 6-phase current of 16²/3 or 50 cps is transmitted to stir the metal. These furnaces produce products with S and P contents as low as 0.01%, while a second replacement of the slag reduces S to 0.004% and P to 0.003%. The ASEA company's device for mixing metal in arc furnaces requires that the bottom of the furnace be made in part of nonmagnetic material. A stirrer for a 150-t furnace is of 765-kva power and 0.38 cps. The "Tekniks Ljungskile" company [probably the "HF-Teknik" company in Ljungskile, Sweden; Transl. Ed Note] manufactures generators for the welding of masticated rubber, 250-5000 watts in power with single- or 3-phase feed at 40-27 mc. A large number of motor-generator sets at frequencies of up to 20 kc and of 15-30 kw power, for the brazing of cutters, heating of billets, and annealing of tubes after welding, etc. is also manufactured.

1. Induction furnaces--Design
2. High frequency currents--Applications
3. Generators--Performance

Card 2/2

SHAKOV, A.N.; BODAZHKOV, V.A.; ZHIZHMON, Ya.I., inzh., retsenzent;
MORGUN, V.V., inzh., red.; MIKHEYEVA, R.N., red.izd-va;
PETERSON, M.M., tekhn. red.

[Design and operation of high-frequency plants] Proektirova-
nie i ekspluatatsiia vysokochastotnykh ustanovok. Moskva,
Mashgiz, 1963. 218 p. (MIRA 17:1)

RIKALIN, A. Ye., Inzn.; SHAMOV, A. H.

Induction heating in forges and rolling mills. Trudy NIITVCH
no. 415-11 '63. (MIRA 17:7)

SHAMOV, A.N.; DONSKOY, A.V., prof., doktor tekhn. nauk retsenzent;
FOGEL', A.A., kand. tekhn. nauk, red.

[Power supply of high-frequency heating systems from
large electric generators] Pitanie vysokochastotnykh na-
grevatel'nykh ustroystv ot mashinnykh generatorov. Izd.3.,
Pod red. A.A.Fogelia. Moskva, Mashinostroenie, 1965. 57 p.
(Bibliotekha vysokochastotnika-termista, no.10)
(MIRA 19:1)

KALINIK, Vyacheslav Pavlovich; ~~SHAMOV, Aleksandr Vasil'yevich~~; PETROV,
M.D., redaktor; VYSOTA, I.I., retsenzent; ~~FEDOROV, V.B.~~, retsen-
zent; KAN, P.M., redaktor; KRASHAYA, A.K., tekhnicheskii redaktor.

[Training manual for marine boiler tenders] Posobie dlia podgoto-
vki sudovykh kochegarov. Moskva, Izd-vo "Rechnoi transport,"
1955. 163 p. (MLRA 8:10)
(Boilers, Marine)

SHAMOV, A.V.

Patriotic initiative of retired Volga River sailors. Rech.transp.
16 no.9:36-37 S '57. (MIRA 10:12)
(Merchant marine--Seamen)
(Navigation--Study and teaching)

KALININ, Vyacheslav Pavlovich; SHAMOV, Aleksandr Vasil'yevich; Prinimal
uchastiye SIZYKH, V.A., inzh.; KOLICHENKO, K.N., inzh., retsen-
zent; VISOTA, I.I., retsenzent; KAN, P.M., red. izd-va;
POKHLEBKINA, M.I., tekhn. red.

[Ship stokers' handbook] Posobie sudovomu kochegaru. 2. dop. i
ispr. izd. Moskva, Izd-vo "Rechnoi transport," 1961. 171 p.
(MIRA 15:1)

(Boilers, Marine)

STAMOV A. Ye

PROCESSING AND PROPERTIES INDEX

The molecular refraction of binary systems. R. T. Vildush and A. E. Shamov, *Trudy Bol'sh. Sol'sk. Ak. B.* (90), 45-6 (1969); *Chem. Zvest.* 1969, 11, 1501. The paper is a brief note on the calcn. and detn. of the mol. refraction of the following binary systems: acetone-benzene, acetone-water, HOAc-water, EtBr-EtOH, sucrose-water, and others. The mol. refractions of the mixts. and the mol. refractions of the substances dissolved in varying concns. were calcld. and compared with the expl. values. From this comparison it was shown that the deviations from additivity were especially marked when polar substances were dissolved in nonpolar solvents, as benzene. When polar substances were dissolved in polar solvents, slight deviations from additivity were observed. In the system EtBr-EtOH very pronounced deviations from additivity were observed, which were due to the strong mutual action between the alc. mols. On the other hand, the system sucrose-water followed the law of additivity very well.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

2

SHAL, A. Y.

Dissertation: "A Study of the Condition of an Alpha Solid Solution of Steels After Tempering and Annealing." Cand Phys-Math Sci, Central Sci Res Inst of Ferrous Metallurgy, Moscow, 1953. (Referativnyy Zhurnal, Khimiya, Moscow, No 16, Aug 54)

SO: SUM 323, 28 Feb 1955

SHAMOV, A.E.

Journal of the Iron and Steel Institute
Vol. 176
Apr. 1954
Metallography

On the State of Martensite Crystals of Hardened Low-Carbon Steels. G. V. Kurdymov, M. D. Perkas, and A. E. Shamov. (*Doklady Akademii Nauk S.S.S.R.*, 1953, 92, (5), 855-857). [In Russian]. The state of martensite in a series of low-carbon steels (quenched from 1000-1050° C. in a solution of sodium hydroxide at 0° C.) was investigated by determining the width of the (211) line in chromium radiation, the hardness, and the coercive force. An increase in carbon content leads to a continuous increase of all three quantities, indicating an increasing amount of carbon in solid solution. Concerning the influence of manganese content on the width of the line (211) it was found that, in all alloys, the carbon content of martensite was the same and that the carbon was retained in solid solution. It is concluded from the data obtained that, during the rapid quenching of carbon steel containing 0.1% of carbon, martensite is not able to decompose during cooling and the carbon remains in solution. This conclusion is valid for steels with carbon < 0.1%. The main condition for the retention of all the carbon in a solid solution is a high quenching speed.—v. v.

Evaluation B-78539, 8 Sep 54

KURDYUMOV, G.V., akademik; PERKAS, M.D., kand. tekhn. nauk; SHAMOV, A.Ye., kand.
fiz.-mat. nauk

State of martensite crystals in hardened commercial iron and low-
carbon steel. Probl. metalloved. i fiz. met. no. 4:228-238 '55.
(Metal crystals) (Martensite) (MIRA 11:4)

SOV/137-57-10-20075

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 233 (USSR)

AUTHORS Perkas, M.D., Shamov, A.Ye.

TITLE. A Study of the Solubility of Carbides in Gamma Iron by Measurement of the Width of an Interference Line (Izucheniye rastvorimosti karbidov v γ -zheleze metodom izmereniya shiriny interferentsionnoy linii)

PERIODICAL: Tr. Kuybyshevsk. inzh.-stroit. in-t, 1957, Nr 4, pp 177-183

ABSTRACT. An investigation is made of mild steel with 0.1% C and alloy steels with 6 and 11% Cr, 0.5 Ti, or 1.16% Nb, and also of multiple-alloy steel with 0.67% Ti and 5.7% Ni, 1.45% Cr and 0.83% V, 1.48% Mn and 1.4% V. To dissolve the carbides (Cb) in the γ phase, the specimens are heated to 850-1300° and hardened in a 10% aqueous solution of NaOH. The X-rays are taken by the back reflection method, Cr radiation being employed. An expression is found for the relationship between the width of the (211) line to the temperature at which the steel is

Card 1/2

SOV/137-57-10-20075

A Study of the Solubility of Carbides in Gamma Iron (cont.)

hardened. It is shown that as the Cr contents of the steel increase the temperature of onset of dissolution of the Cr Cb in the γ phase rises. The subsequent process of dissolution of Cb of high-chromium steel's proceeds more intensively than in steels containing little Cr. Data are obtained descriptive of the differing effects of alloying elements upon the solubility of Cb in austenite. It is shown that the taking of an X-ray of a specimen in which all the C is in the ferrite and X-rays of the specimens under investigation permits determination of the solubility of Cb in the γ phase by line width.

L.M.

Card 2/2

SHAMOV, B.

Single side-band reception. Radio no.6:22-24 Je '56. (MLRA 9:8)
(Radio--Receivers and Reception)

BAUSHEV, Nikolay Mikhaylovich; SEANOV, Boris Pavlovich; MOSOLOV
K.V., nauchn. red.; TIKHONOVA, N.V., red.; BAPANOVA,
N.N., tekhn. red.

[Modernization of training-shop equipment] Modernizatsiia
oborudovaniia uchebnykh masterskikh. Moskva, Proftekhizdat,
1963. 52 p. (MIRA 17:1)

SHAMOV, D. F.

... of the ... in the fields of ... scientific work ...

Rauzer-Chernousova,
D. M.
Grozilova, L. P.
Reytlinger, Ye. A.
Vissarionova, A. Ya.
Shamov, D. F.
Lipina, C. A.

"Middle Carboniferous
Fusulinides of the
Russian Platform and
Adjacent Areas"

Institute of Geological
Sciences Academy of Science
USSR.

15-1957-3-2611
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3,
pp 7-8 (USSR)

AUTHOR: Shamov, D. F.

TITLE: The Sakmaro-Arti Deposits of Ishimbayskaya Priural'-
ye (Ishimbay Region of the Urals) (Sakmaro-artinskiye
otlozheniya Ishimbayskogo Priural'ya)

PERIODICAL: Uch. zap. Kazansk. un-ta, 1955, Vol 115, Nr 10, pp 111-
113

ABSTRACT: The paper discusses, with examples, the Lower Permian
sections of the Ishimbay buried masses and the isolated
mountains of Sterlitamak, in southern Bashkiria. The
different ages of the Lower Permian limestones occurring
in these masses and isolated mountains are noted. The
rocks are considered to be a reef complex. Two types of
such formations are distinguished by differences in mor-
phology. Normal marine or platform sediments are devel-
oped to the west of the occurrences mentioned (no more
than 900 m thick), and to the east there occurs a thin-

Card 1/2

SHAMOV, D.F.

Facies of Samara-Artinskian sediments in the Ural Mountain
region near Ishimbay. Trudy UFNII no.2:3-77 '57.
(MIRA 12:1)

(Ishimbay region--Rocks, Sedimentary)

SHAMOV, D.F.

Conditions governing the formation of oil fields in the cis-Ural depression. Geol.nefti i gaza 3 no.8:30-35 Ag '59.
(MIRA 12:11)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut (UFNII).

(Ural Mountain region--Petroleum geology)

SHAMOV, I.A.

Intravital detection of rupture of the papillary muscle of the heart
following myocardial infarct. Vrach. delo no.4:126-127 Ap '61.

(MIRA 14:6)

1. Kafedra gospiatal'noy terapii (zav. - dotsent Kh.E.Gadzhiyev)
Dagestanskogo meditsinskogo instituta.

(HEART--INFARCTION)

SHAMOV, I. A. (Makhachkala)

Etiology of diabetes insipidus. Probl. endok. i gorm. no. 6:100-101
'61. (MIRA 14:12)

1. Iz gosspital'noy terapevticheskoy kliniki (zav. - dotsent Kh. E.
Gadzhiyev) Dagestanskogo meditsinskogo instituta (dir. - dotsent
M. M. Maksudov)

(DIABETES)

SHAMOV, I.A.

"Tables of the chemical composition and nutritive value food products." Reviewed by I.A.Shamov. Vop.pit 21 no.4:93-94 J1-Ag '62. (MIRA 15:12)

(FOOD—TABLES, CALCULATIONS, ETC.)

SHAMOV, I.A.

Notes on the vitamin content in the diet of experimental animals.
Lab. delo no. 12:748-750 '64. (MIRA 18:1)

1. Kafedra gospi'tal'noy terapii (zaveduyushchiy - dotsent Kh. E.
Gadzhiyev) Dagestanskogo meditsinskogo instituta, Makhachkala.

SHAMOV, I.A.

Composition of the normal intestinal microflora of rats and its dynamics under the influence of necrogenic and cirrhogenic diets; etiology and pathogenesis of enterogenic hepatitis and liver cirrhosis. Vop. pit. 22 no.4:30-39 J1-Ag '63.

(MIRA 17:10)

1. Iz kafedry gosspital'noy terapii (zav. - dotsent Kh.E. Gadzhiyev) Dagestanskogo meditsinskogo instituta, Makhachkala.

L 12579-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD PS-4/Pr-4/
Pc-4 RM/WW

ACCESSION NR: AP3003316

S/0191/63/000/007/0064/0065 70

AUTHORS: Pokrovskiy, L. I.; Polyakov, Yu. N.; Shamov, I. V

TITLE: Low-pressure polyethylene filters

SOURCE: Plasticheskiye massy*, no. 7, 1963, 64-65

TOPIC TAGS: filter, polyethylene, polymer, polyvinylchloride, Vinyon, compression strength

ABSTRACT: Authors present a generalized survey of polymers which can be used for filters. The most extensively developed are filters made out of polyvinylchloride and polyethylene. This is due to their high operating properties and low cost of raw materials. The use of polyvinylchloride filters is limited by the material's thermostability. These filters can be used up to a temperature of +60 C. High-density polyethylene filters can operate at higher temperatures (up to 100C). Vinyon is described briefly [Abstractor's note: this name is misspelled in the original.] Production of polyethylene filters is described. Authors produced low-pressure polyethylene filters with NaCl as filler. Method described is simple and practical.

Card 1/2

L 12579-63

ACCESSION NR: AP3003316

cal for the production of fine-pore, low-pressure polyethylene filters. Indices such as weight by volume, pore size, compression strength, hydrostatic pressure strength and filtering rate attest to the fact that polyethylene filters can be successfully used in place of the more common filter materials.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: MA

NO REF SOV: 011

OTHER: 004

Card 2/2

L 39954-65 EWT(m)/EPF(c)/EWP(j)/I/EWA(c) Pc-4/Pr-4 RPL JW/RM
ACCESSION NR: AP5004317 S/0191/65/000/002/0068/0069

AUTHOR: Valgin, V.D.; Vasil'yeva, E.A.; Shamov, I.V.; Sergeyeva, V.A.

TITLE: Study of the resistance of epoxy foams to petroleum products

24
B

SOURCE: Plasticheskiye massy, no. 2, 1965, 68-69

TOPIC TAGS: epoxy resin, epoxy foam, foam plastic, petroleum, gasoline, phenylene-diamine polymer

ABSTRACT: The resistance of epoxy foam PE-1 to various petroleum products was measured to determine its service properties. The foam has a closed cellular structure and is produced from m-phenylenediamine. Compression resistance, resistance to static bending, impact strength, weight loss, and adsorption were measured before and after 1-10 days immersion in aviation gasoline, leaded gasoline, residual fuel, petroleum, and fuel oil TC-1; the weight loss after 30 hrs. immersion in 80C petroleum or 10 hrs. immersion in petroleum at 90C, and the weight loss in sulfonate solutions used for the cleaning of tanks, were also measured. Mechanical properties were not affected under any of the conditions studied, detected losses of weight were negligible, the adsorption of petroleum products was small and restricted to the surface area, and the body of the foam.

1/2

Card

L 39954-65

ACCESSION NR: AP5004317

remained dry and unaffected. Orig. art. has 3 tables, 1 figure and 1 formula. 0

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, FP

NO REF SOV: 003

OTHER: 000

Card 2/2 JO

1. The first of the two main parts of the report is a description of the results of the investigation. The second part is a discussion of the results and a comparison with the results of other investigations.

2. The first part of the report is a description of the results of the investigation. The second part is a discussion of the results and a comparison with the results of other investigations.

ZLOBIN, L.I.; PISHEVSKIY, A.N.; SHAPIRO, E.L.; SHAMOV, V.A.

Methods of measuring radioactivity in human subjects. Med.
rad. 4 no.6:85-87 Je '59. (MIRA 12:8)

1. Iz Instituta radiatsionnoy gigiyeny Ministerstva zdravo-
okhraneniya RSFSR.

(RADIOACTIVITY,
intravital measurement of human radioactivity,
review (Rus))

SHANOV, VLADIMIR NIKOLAEVICH

DECEASED
1962

1964

Medicine
neurosurgery
radiation

L 58942-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG
ACCESSION NR: AP5016346 UR/0149/65/000/002/0072/0078
669.871

AUTHOR: Shamov, V. N.; Zhurin, A. I.

TITLE: Electrolytic extraction of gallium from recycled aluminate liquors

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 2, 1965, 72-78

TOPIC TAGS: gallium, electrolysis, aluminates

ABSTRACT: Measures and conditions for the direct recovery of gallium by electrolysis of aluminate liquors and solutions at low current densities are described. Hydrogen evolution overvoltage was investigated in special cells, one for overvoltage on a steel electrode, the other for the case of a steel electrode coated with gallium. Hydrogen overvoltage on gallium was found to be significantly higher than that on steel. Experimental findings confirmed that the electrolytic recovery of gallium using steel cathodes plated with gallium is more efficient--with higher current efficiency and lower electric consumption--than when steel or nickel cathodes are employed. The process was studied with synthetic aluminate solutions and with solutions similar to those in the Bayer aluminum refining process. Solution

Card 1/2

L 58942-65

ACCESSION NR: AP5016346

gallium content was 0.15 to 0.16%/l. The yield of gallium as a function of current densities from 50 to 3,000 a/m² at a temperature of 67-72°C is shown. The effect of the rate of circulation of the solution on current efficiency and electrical consumption is significant. The simplicity of the process makes it a promising one for direct recovery of gallium from aluminate solutions. A possible drawback, found in the study of the effect of solution composition on current efficiency, is the presence of sodium vanadates which greatly reduce gallium current efficiency. Orig. art. has: 5 figures, 6 tables.

ASSOCIATION: Kafedra elektropirometallurgii tsvetnykh metallov Leningradskogo politekhnicheskogo instituta (Department of Nonferrous Electropyrometallurgy, Leningrad Polytechnic Institute)

SUBMITTED: 24Dec63

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 002

Card 2/2

SHAMOV, V. P.

800-1-F
RML

4162 AEC-tr-2435 (Pt. 2) (p. 55-64)

NUCLEAR FISSION REACTIONS DUE TO NEGATIVE PIONS
AND FAST PROTONS. N. A. Perillo, N. S. Ivanova, O. V.

Lozhkin, V. I. Ostroumov, and V. P. Shamov. p. 55-64 of

CONFERENCE OF THE ACADEMY OF SCIENCES OF THE

USSR ON THE PEACEFUL USES OF ATOMIC ENERGY.

JULY 1-5, 1955. SESSION OF THE DIVISION OF CHEM-

ICAL SCIENCE. (Translation). 10p.

This paper was originally abstracted from the Russian
and appeared in Nuclear Science Abstracts as NSA 9-7935

IRML

Nuclear fission reactions with π mesons and fast

ions. N. A. Perfilov, N. S. Ivanova, O. V. Lozhkin, V. I.
Gerasimov, and V. P. Slunov. *Soviet Acad. Nauk*

S.S.S.R. *po Mirnomu Ispol'zovaniyu Atomnoi Energii* 1955.

Zasedaniya Otdel. Khim. Nauk, 79-80.—The interaction of
slow pions and fast (400-600-m.e.v.) protons with U, Bi,
and W was studied by the thick-emulsion photographic-plate

method. The results show that the capture of slow pions by

U, Bi, and W causes their fission, the probability being
 ~ 0.3 , 0.1 , and ~ 0.02 , resp. The U-fission yields

plotted as fission paths showed a sharp max. indicating that
the fission reaction is like that with fast particles. The reac-

tion of U, Bi, and W with fast protons made it possible to
det. the excitation energy and to find the distribution of the

fission products with respect to the initial excitation energies.
The actual fission process at high excitation energies is pre-

ceded by the evapn. of neutrons and charged particles.

J. Roxtar Leach

U.S. Atomic Energy Commission

enc 4

USSR, Nuclear Physics - Fission by negative pi-mesons

FD-2339

Card 1/2 Pub. 146 - 4/34

Author : Perfilov, N. A.; Lozhkin, O. V.; and Shamov, V. P.

Title : Yield of the processes of fission and star formation during capture of negative pi-mesons by uranium, bismuth, and wolfram nuclei

Periodical : Zhur. eksp. i teor. fiz. 28, 655-663, Jun 1955

Abstract : By the method of thick-layer photoplates with the substance introduced into the middle layer in the form of compounds insoluble during development and fixing, the authors investigated the interaction of slow negative pi-mesons with U, Bi and W nuclei. For the indicated elements they obtain the ratios of yield by fission and star formation as a result of capture by the nuclei of negative pi-mesons. The probability of fission of nuclei during capture of negative pi-mesons decreases sharply with decrease of Z of the nucleus: for U the fission probability is about 0.3; for Bi, 0.02; for W, less than 0.002 possibly. The remaining cases of interaction of negative pi-mesons with heavy nuclei lead to formation of mainly so-called rayless and single-ray stars. They consider the mechanism of nuclear fission to be possible in the case of capture of negative pi-mesons. Eleven references; e.g.

Card 1/2

FD-2339

N. A. Perfilov, O. V. Lozhkin, V. P. Shamov, N. S. Ivanova, A. V.
Pyrkin, Otchet RIAN, 1950, 1952, 1953, 1955.

Institution : Radium Institute, Academy of Sciences USSR (RIAN)

Submitted : March 19, 1955

USSR/Nuclear Physics - Fission of uranium by slow mesons

FD-2353

Card 1/1 Pub. 1-6 - 18/34

Author : Lozhkin, O. V., and Shamov, V. P.

Title : Probability of fission of uranium nuclei during their absorption of slow negative pi-mesons

Periodical : Zhur. eksp. i teor. fiz. 28, 739-740, Jun 1955

Abstract : A report communicated earlier in Otchet RIAN*, Jan 1954. The authors state that the first determinations of the probability of fission of uranium nuclei during capture of negative pi-mesons, which were carried out in their laboratory in 1951 by Perfilov, Ivanova, and the authors (Otchet RIAN, 1951-1952), by means of the method of thick-layered photoemulsions, led to the conclusion that every or almost every capture of negative pi-meson by uranium nucleus leads to its fission, which conclusion was later made by S. Al-Salam (Phys. Rev. 84, 1951). Using the same method the authors evaluated the probability of fission as 0.18 ± 0.06 , differing from the value in the literature (W. John and W. Fry, Phys. Rev. 91 1953). They thank Professor N. A. Perfilov. 6 ref.

Institution : Radium Institute, Academy of Sciences USSR [RIAN*]

Submitted : March 19, 1955

USSR/Nuclear Physics - Fission of heavy nuclei

FD-2903

Card 1/2

Pub. 146 - 4/25

Author : Shamov, V. P.; Lozhkin, O. V.

Title : Asymmetry of flight paths of fragments during fission of heavy nuclei by superfast particles

Periodical : Zhur. eksp. i teor. fiz., 29, September 1955, 286-291

Abstract : In accordance with data of an investigation into the fissions of U, Bi, and W nuclei under the action of protons with energies of 600 Mev in a fine-grain emulsion P-9, the authors construct the distribution of ratios of flight paths of fragments for various energies of disturbance of the fissioning nuclei. They find that with increase of the energy of excitation of the nucleus the fraction of strongly asymmetrical fission increases; here, this increase is significantly larger for Bi than for U. For energy of excitation of the nucleus approximately equal to or greater than 400 Mev the character of the fission is identical for U, Bi, and W. The authors evaluate the region of excitation energies where the fission of the nuclei possesses the most symmetrical character; for uranium it is 60-100 Mev, and for bismuth it is about 100 Mev. They thank Professor N. A. Perfilov for his participation in the discussion of the results. Two references: V. P. Shamov, Otchet RIAN, 1954; R. Mathieu, P. Demers, Canad. J. Phys., 31, 97, 1953.

Card 2/2

Pub. 14b - 4/28

FD-2963

Institution : Radium Institute, Academy of Sciences USSR

Submitted : May 12, 1955

USSR/Nuclear Physics - Fission fragments distribution

FD-2964

Card 1/1 Pub. 146 - 5/28

Author : Lozhkin, O. V.; Perfilov, N. A.; Shamov, V. P.

Title : Problem of the angular distribution of fragments in the fission
 of uranium for large energies of excitation

Periodical : Zhur. eksp. i teor. fiz., 29, September 1955, 292-295

Abstract : The authors investigated the cases of the fission of uranium
 nuclei in the nuclear fine-grain emulsion P-9 saturated with an
 aqueous solution of a uranium salt and irradiated by protons
 with energies of 660 Mev. They studied the angular distribution
 of the fission products (fragments) relative to the direction of
 the proton beam for energies of excitation of the uranium nucleus
 equal to approximately 75 Mev, 150 Mev, and 300 Mev. The angular
 distribution of the fragments can be approximately described by
 the following function: $a + b \cdot \sin^4 \phi$. The anisotropy increases
 somewhat with increase of the energy of excitation. Six refer-
 ences: e.g. V. P. Shamov, O V. Lozhkin, Otchet RIAN, 1955.

Institution : Radium Institute, Academy of Sciences USSR

Submitted : May 12, 1955

USSR/Physics

Card 1/1 Pub. 22 - 16/45

Authors : Shamov, V. P. and Lozhkin, O. V.

Title : Asymmetry of the runs by fragments of the fission of heavy nuclei
 bombarded with super fast particles

Periodical : Dok. AN SSSR 103/2, page 233, Jul 11, 1955

Abstract : An experimental study of the asymmetry of the runs of nuclear fragments,
 a product of the fission of heavy elements bombarded with super fast
 particles (protons of 660 Mev.), is described. Emulsions with U, Bi and
 W were studied. One USSR reference (1954).

Institution : The Acad. of Sc., USSR, Radium Institute imeni V. G. Khlopin

Presented by : Academician A. F. Joffe, May 20, 1955